

Attorney Docket No. W-0006

AMENDMENT TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of the Claims:

Please amend the claims as follows:

1 – 10. (Cancelled)

11. (currently amended) A method for preparing a radial styrenic block copolymer of Claim 1 comprising:

(a) contacting styrenic and dienic monomers with an anionic polymerization initiator which is an organo-substituted alkali metal compound in a suitable solvent to form a living polymer cement;

(b) adding from about 0.01 to about 1.5 equivalents of a metal alkyl compound per equivalent of living polymer chain ends to the cement, during or after polymerization, wherein the alkyl groups of the metal alkyl compound are chosen so that they will not exchange with the living polymer chain ends and the metal alkyl compound is selected from the group consisting of aluminum, zinc and magnesium alkyls having from 1 to 20 carbon atoms per alkyl substituent; and

(c) adding a diester coupling agent to the cement under reaction conditions sufficient to couple the living polymer; and

wherein the weight percentage of the polymer so formed having $n = 5^+$ is less than about 8 percent.

12. (Previously presented) The method of Claim 11 wherein 0.9:1 to 1.1:1 equivalents of a metal alkyl compound per equivalent of living polymer chain ends is added to the cement.

13. (Previously presented) The method of Claim 11 wherein the metal alkyl compound is a trialkyl aluminum compound.

14. (Previously presented) The method of Claim 13 wherein the trialkyl aluminum compound is triethyl aluminum.

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15. (Previously presented) The method of Claim 1 wherein the molar ratio of diester to living polymer chains is from about 0.2:1 to about 0.3:1.
16. (Previously presented) The method of Claim 11 wherein the molar ratio of diester to living polymer chains is about 0.25:1.
17. (Previously presented) The method of Claim 11 wherein the metal alkyl compound is added in step (b) at or after 70 weight percent conversion of the monomers.
18. (Previously presented) The method of Claim 17 wherein the metal alkyl compound is added in step (b) at or after 90 weight conversion of the monomers.
- 19 – 21 (Cancelled)
22. (currently amended) A radial styrenic block copolymer having a general formula:



wherein:

- (i) A is a styrenic block,
- (ii) B is a dienic block,
- (iii) X is a residue of a diester coupling agent,
- (iv) n is the number styrenic block copolymer arms bonded to the residue of a diester coupling agent,
- (v) the molecular weight of the styrenic block copolymer arm (AB) is from about 2000 daltons to about 300,000 daltons, and
- (vi) the weight percentage of the polymer wherein $n = 5^+$ ~~is at least 5~~ is less than about 8 percent, and

wherein said copolymer is produced by the method of Claim 11.

23. (currently amended) The radial styrenic block copolymer of Claim 22 wherein the weight percentage of the polymer wherein $n = 5^+$ ~~is at least 5~~ is less than about 6 percent.
24. (currently amended) The radial styrenic block copolymer of Claim 23 wherein the weight percentage of the polymer wherein $n = 5^+$ ~~is at least 5~~ is less than about 5 percent.

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25. (previously presented) The radial styrenic block copolymer of Claim 22 wherein the weight percentage of the polymer wherein $n=2$ is less than about 5 percent.
26. (currently amended) The radial styrenic block copolymer of Claim 25 wherein the weight percentage of the polymer wherein $n=2$ and $n = 5^+$ ~~is at least 5~~ is less than about 12 percent.
27. (previously presented) The radial styrenic block copolymer of Claim 22 wherein the styrenic block (A) is polystyrene.
28. (previously presented) The radial styrenic block copolymer of Claim 22 wherein the dienic block (B) is selected from the group consisting of polybutadiene, polyisoprene and mixtures thereof.
29. (previously presented) The radial styrenic block copolymer of Claim 22 wherein the molecular weight of the styrenic block copolymer arm (AB) is from about 3,000 daltons to about 150,000 daltons.
30. (previously presented) The radial styrenic block copolymer of Claim 26 wherein the molecular weight of the styrenic block copolymer arm (AB) is from about 30,000 daltons to about 100,000 daltons.
31. (previously presented) The radial styrenic block copolymer of Claim 22 wherein the residue of a diester coupling agent is a residue of a diester selected from the group consisting of dimethyl adipate, diethyl adipate, dimethyl terephthalate, diethyl terephthalate, and mixtures thereof.
32. (previously presented) A modified bitumen comprising an admixture of a radial styrenic block copolymer of Claim 22 and bitumen.
33. (previously presented) A hydrogenated radial styrenic block copolymer prepared by hydrogenating a radial styrenic block copolymer of Claim 22.
34. (previously presented) The hydrogenated radial styrenic block copolymer of Claim 33, wherein the radial styrenic block copolymer of Claim 22 is hydrogenated using a selective hydrogenation process.